**DOCUMENT RESUME**

ED 166 608 CG 013 214

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| TITLE | The Impact of Stress on Mothers and Their Children. |
| SPONS AGENCY | National Inst. of Mental Health (DHEW), Rockville, Md. Div. of Mental Health Services Program. |
| PUB DATE | 28 Aug 78 |
| NOTE | 22p.; Paper presented at the Annual Convention of the American Psychological Association (Toronto, Ontario, Canada, August, 1978) |
| EDRS PRICE | MF-$0.83 HC-$1.67 Plus Postage. |
| DESCRIPTORS | Community Services; *Depression (Psychology); Family Counseling; *Family Life; *Heads of Households; Interpersonal Relationship; Low Income; *Mothers; *Parent Child Relationship; Risk; *Stress Variables |

ABSTRACT

Stress appears to jeopardize mental health and maternal behavior and indirectly to jeopardize the mother-child relationship by increasing the risk of maternal depression. An intensive study investigated the stresses experienced by low-income mothers. While both life event and life condition stress were strongly associated with depression, life condition stress scores were more highly correlated with depressive symptom scores. These scores were associated with low proportion of nurturant behaviors by mothers, high proportions of prosocial bids by mothers and low rates of compliance to children's dependent bids. Maternal depressive symptom scores, but not stress scores, were associated with children's reports of unhappiness at home. (BN)

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# The Impact of Stress on Mothers and their Children

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Presented at the American Psychological Association Meeting, August 28, 1978.

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Community studies and studies of hospital utilization have found that women are more likely than men to experience depression (Weissman and Klerman, 1977). Poverty, the lack of social and emotional support, and threatening life events put women at high risk for this mental health problem (Brown et al., 1975; Pearlin and Johnson, 1975), and responsibility for young children under such adverse circumstances is itself an additional risk factor for depression (Brown et al., 1975; Pearlin and Johnson, 1975). Recent studies have also indicated that seriously depressed mothers are likely to be "impaired" in their maternal role functioning (Weissman and Paykel, 1974), and that the children of severely depressed mothers may actually suffer more severe cognitive and attentional deficits than the children of schizophrenic mothers (Grunebaum et al, 1977; Cohler et al, 1977). These findings are made more alarming by recent increases in the number of impoverished households headed by women (Ross and Sawhill, 1975), since these increases throw increasing numbers of mothers and children into high risk demographic categories.

While the research findings give cause for concern, they do not give a comprehensive picture of the stress experienced by low-income mothers nor do they spell out the process by which maternal stress and depression affect children. Therefore an intensive interview and observational study was conducted to investigate in depth the stresses experienced by low-income mothers, to study how mothers behave when experiencing stress or when experiencing depressive symptoms associated with life stress, and to find out how children feel when their mothers are stressed or depressed.

Forty-three Boston area women and their families were recruited for the study. Only low-income families were studied. Per capita yearly income ranged from $563 to $3744. The sample includes 23 women living with husbands or boyfriends, and 20 women living without men. Each legally defined marital status is represented: never married, married, informally separated, formally separated, widowed and divorced. The sample includes only families in which there is a native-born mother who considers herself either Black or White (but not Hispanic, Chinese, etc.) and at least one child between the ages of 5 and 7. This child became the focus of observations in the home and was called the "target" child of the family. Target children for whom data are available include 22 boys and 20 girls. No target child had severe physical disabilities.

Recruiting procedures were designed to include women with varied life situations. A wide range of educational backgrounds and working histories are represented among the women studied. Women with many children and women with only one child, women living in nuclear families, women living with their siblings, and women with other household arrangements were included. Selection procedures ensured that Black and White women were closely matched on variables such as income, educational level and number of children. Post hoc analysis revealed no significant differences between Black women and White women on educational level or number of children. However, Black families were found to have a significantly greater per capita yearly income than White families ($F = 3.01$, $p < .05$).

Two researchers worked with each family. One researcher interviewed the mother, and the other researcher observed family interaction in the home, interviewed the children about the parent-child relationship, and interviewed

the parent or parents about child-rearing. Every Black woman was interviewed by a Black woman, and every White woman by a White woman. Of the 21 Black families, 10 had child observers who were not Black. All White families has White child observers. Four families had male child observers. Work with each family generally extended over a period of 3 to 4 months with weekly or twice-weekly visits by researchers.

Interviews with the mother covered the following topic areas: daily routine, recent stressful life events and ongoing stressful life conditions, social networks, coping strategies, experiences of discrimination, family nutrition, experiences with social service institutions, work experiences, parenting attitudes, adjustment of children, and generational change in the woman's role. Brief measures of depression, anxiety, self-esteem and locus of control were also administered.

Depression was measured with a brief self-report questionnaire, the CES-D scale, which asks respondents how often in the past week they experienced symptoms such as feeling fearful, having crying spells, and feeling they could not "get going". Scores on this measure do not necessarily indicate whether or not a woman is suffering from depression as a psychiatrist would recognize it. Scores on this measure do indicate the extent of depressive symptomatology and unhappiness. Reliability and validity have been established for the CES-D Scale (Radloff, 1977). CES-D scores have been found to discriminate well between psychiatric inpatient and general population samples and to discriminate moderately well within patient groups by severity of illness. The CES-D scale was administered once at the beginning of work with each woman, and once at the end of the interviewing sequence. The first and

second administration scores were highly correlated (Pearson correlation coefficient = 51, p < .001), and mean scores have been used for the calculations reported in this paper.[1]

In order to measure life stress in this study, two interview scales were developed: one which taps the stress associated with recent events, and one which taps the stress associated with chronic conditions. Several researchers have documented a relationship between the clustering of life events and mental health problems (Radloff, 1974; Brown et al., 1975; Dohrenwend and Dohrenwend, 1974), and the Life Event Stress measure is an extension of this work. Existing life event stress interviews, however, have tended to include events likely to apply to men (military draft, wife begins or stops work) while ignoring events likely to apply to women (household violence, abortion, rape), and to include events likely to happen to middle-income people (business readjustment, taking out a mortgage), while ignoring events likely to happen to low-income people (burglary, assault, going on welfare) (Makosky, in press).

The Life Event Stress interview developed for this study contains a list of 107 specific events, including events likely to be experienced by low-income mothers with young children, as well as events which have appeared on widely used lists. For each event the respondent is asked whether that event happened to her during the past 2 years. For each reported event, the respondent is asked to rate the intensity and duration of the stress (defined as upset, worry, concern, problems, unhappiness etc.). These stress ratings are combined to yield a Respondent Life Event Stress Score.

Much stress in life, however, is not related to how much things change,

but to how much an oppressive condition stays the same. A Life Conditions Stress interview was developed to tap this sort of stress. This interview measures things which cause stress (stressors) in the eleven areas of: employment, extended family, friends, physical health, mental health, love and marital relationships, the law, living conditions, money, education and parenting. While the Life Event Stress measure taps specific incidents or changes, the Life Conditions measure taps enduring aspects of the respondents' lives. For example, stressful money events include a drop in income, foreclosure of a mortgage or loan, or going on welfare. Stressful money conditions include the unpredictability of income and the level of indebtedness. Stressful parenting events include changing child care arrangements and losing custody of a child, while stressful parenting conditions include the mother's age at the birth of the first child, the spacing of children, and the number of children with handicaps or chronic health problems. Each respondent was given a Life Conditions score based on this interview which reflects the objective difficulty of ongoing conditions. Respondents were also asked to indicate how much stress (defined as upset, worry, concern, etc.) they experienced in each area of life. These scores were combined to yield the subjective Life Conditions Stress Score.

Analysis of data collected for the present study has shown that both life event stress and life condition stress are strongly associated with the experience of depressive symptoms, as in shown in Table 1. However, ongoing life conditions, whether measured by the objective Life Conditions Score or the subjective Life Conditions Stress Score are more highly correlated with depressive symptom scores than are recent life events.

Insert Table 1

To learn about the effect of stress and the effect of maternal depressive symptoms on maternal behavior and on children's feelings about their mothers, observations were conducted in the home and children were interviewed about their relationships with parents. Six half-hour observations were made of each target child. Mothers were always at home during the observations, though not necessarily interacting with the child. The observer made a written record of all interpersonal behavior involving the target child. These running records were then coded according to the Whitings' cross-cultural observational coding scheme (Whiting, 1976; Whiting and Whiting, 1975). This coding system assumes that when persons interact, one is trying to influence the behavior of the other. For each segment of interpersonal behavior observers note who initiates the behavior (actor), the goal or intention of the behavior (mand type), and the behavioral strategy used (style). Observers also note the person whose behavior the actor is trying to influence (object), whether the object complies or does not comply (compliance), and the way in which the object responds (style of compliance).

Behaviors were classified as dependent if the actor sought goods, services, attention, or approval, nurturant if the actor offered attention, praise or material goods, prosocial if the actor gave instructions for appropriate behavior, dominating if the actor exerted control for personal benefit, and sociable if the actor initiated a sociable exchange. Each observer coded his or her own observations. Agreement on coding from protocols was at an acceptably high level (inter-coder reliability greater than 80%).

Maternal stress and maternal depressive symptoms appeared to take a toll

on mother-child interactions as these were observed in the home. While the amount of mother-child interaction did not vary systematically with mothers' stress scores or with mothers' depressive symptom scores, the quality of mother-child interaction did show systematic variation.

While mothers' Life Event Stress scores were not associated with characteristics of maternal behavior, as can be seen in Table 2, mothers' Life Condition Stress scores were significantly correlated with several types of maternal behavior. Mothers with higher Life Condition Stress scores spent greater proportions of their interactions with their children giving instructions about appropriate behavior and smaller proportions of their interactions nurturing their children -- by providing goods, help or emotional support. This is shown in Table 3. Higher Life Condition Stress scores were also associated with lower rates of compliance to children's dependent bids.

Insert Tables 2 and 3

CES-Depression scores were significantly correlated with all of these same mother-child interaction variables. High depressive symptom scores were associated with low proportions of nurturant behaviors by mothers, high proportions of prosocial bids by mothers, and low rates of maternal compliance to children's dependent bids. In addition, CES-Depression scores were strongly correlated with the proportion of mothers' behaviors which used dominating or hostile-aggressive styles. This can be seen in Table 4. Thus, depressive symptoms are reflected even more powerfully than stress in maternal behavior.

Insert Table 4

Children's feelings about their parents were assessed through interviews, and an attempt was made to interview all children living in the home who were between the ages of six and eighteen. Several five-year-olds were also interviewed. Seven children chose not to be interviewed, yielding a sample of 67 children between the ages of 5 and 18. Three questionnaires were used with each child: a Nurturance Scale which was developed for this study and which asks the child to whom he or she turns for sociability or support in various situations, a Punishment Scale which is adapted from one by Bronfenbrenner (see Sugelman, 1961), and which indicates the extent to which children perceive their parents as punitive or rejecting, and the Swanson Child-Parent Relationship Scale (1950), which measures the extent to which children are happy in the parent-child relationship.

No significant relationships were found between maternal stress scores and any of the 3 child interview scales, as is shown in Tables 5 and 6. However, maternal CES-Depression scores were significantly associated with children's reports of unhappiness in the relationship with the mother, as is shown in Table 7. When this analysis is re-computed for only the youngest children in the study (5 to 8-year-olds), the association of maternal depressive symptoms and children's unhappiness with the mother is even higher. Two other relationships between mothers' CES-Depression scores and children's feelings about their mothers approach statistical significance: (1) Among the entire sample of children interviewed, maternal CES-Depression scores were associated with the extent to which children reported that they were punished or rejected at home. (2) When only the youngest children are considered (5 to 8-year-olds) it appears that children whose mothers report many depressive symptoms report

turning less frequently to their mothers for emotional support.

Insert Tables 5, 6 and 7

Thus, maternal depressive symptoms, but not maternal stress, appear to affect the child's feelings about the parent-child relationship.

The pattern of these findings is not inconsistent, but it is complex. The extent of maternal stress and of maternal depressive symptoms have each been shown to relate strongly to characteristics of maternal behavior. However, only maternal depressive symptoms have been found to relate to the child's feelings about the mother-child relationship. What can explain this disjunction? How can mothers behave in similar ways without causing their children similar problems with the relationship?

It should be noted that the correlates of stress and of depressive symptoms were somewhat different. Only CES-Depression scores, and not stress scores, were correlated with the use of dominating or hostile-aggressive styles of interaction. CES-Depression scores were also more highly correlated with mother's noncompliance to child's dependent bids than were stress scores. Perhaps these differences in maternal behavior are critical in making the child unhappy with the mother. It could also be that the maternal behavior correlates of depressive symptoms and of stress are not as similar as they appear in the present study, but that the measures of observed maternal behavior were simply not sensitive enough to reflect these differences.

Depressive symptoms include an inability to connect emotionally with other people. It may be that while stress affects a mother's behavior, only depressive symptoms attack the emotional connection between parent and child. In this

study children certainly appeared to be sensitive and understanding of the stresses in their parents' lives, as long as they felt loved by them. Depressive symptoms may seriously impair a mother's ability to convey the sense of being loved, and thus seriously impair the relationship of mother and child.

At the beginning of this paper it was mentioned with concern that recent trends put increasing numbers of mothers and children into high risk demographic categories. The findings of the present study should intensify that concern. Those who work with low-income mothers and their children, and those who make policies which affect those groups must investigate ways to alleviate the stress of ongoing life conditions, stress which directly jeopardizes women's mental health and maternal behavior, and which indirectly jeopardizes the mother-child relationship by increasing the risk of maternal depression.

Table 1

CORRELATIONS BETWEEN CES-DEPRESSION SCORES AND LIFE STRESS SCORES

| | n | Spearman Correlation Coefficient |
|---|---|---|
| Respondent Life Event Stress Score | 36 | .38** |
| Life Conditions Score | 39 | .64*** |
| Life Conditions Stress Score | 39 | .66*** |

*p <.05
**p <.01
***p <.001

Table 2

CORRELATIONS BETWEEN RESPONDENT LIFE EVENT STRESS SCORES AND CHARACTERISTICS OF OBSERVED MOTHER-CHILD INTERACTION

(n=37)

| | Spearman Correlation Coefficient |
|---|---|
| Overall rate of mother-child interaction | .13 |
| Proportion of mother to child mands which are dominating | -.23 |
| Proportion of mother to child mands which are nurturant | -.08 |
| Proportion of mother to child mands which are prosocial | .22 |
| Proportion of mother to child mands which use dominating or hostile-aggressive styles | -.12 |
| Rate of mother's compliance to child's dependent mands | -.09 |

*p <.05
**p <.01

Table 3

CORRELATIONS BETWEEN LIFE CONDITIONS STRESS SCORES

AND CHARACTERISTICS OF OBSERVED MOTHER-CHILD INTERACTION

(n=40)

| | Spearman Correlation Coefficient |
|---|---|
| Overall rate of mother-child interaction | -.03 |
| Proportion of mother to child mands which are dominating | -.15 |
| Proportion of mother to child mands which are nurturant | -.33* |
| Proportion of mother to child mands which are prosocial | .39** |
| Proportion of mother to child mands which use dominating or hostile-aggressive styles | -.04 |
| Rate of mother's compliance to child's dependent mands | -.37** |

*p < .05
**p < .01

Table 4

CORRELATIONS BETWEEN CES-DEPRESSION SCORES

AND CHARACTERISTICS OF OBSERVED MOTHER-CHILD INTERACTIONS

(n=38)

| | Pearson Correlation Coefficient |
|---|---|
| Overall rate of mother-child interaction | .09 |
| Proportion of mother to child mands which are dominating | .20 |
| Proportion of mother to child mands which are nurturant | -.33* |
| Proportion of mother to child mands which are prosocial | .31* |
| Proportion of mother to child mands which use dominating or hostile-aggressive styles | .42*** |
| Rate of mother's compliance to child's dependent mands | -.52*** |

*p <.05
**p <.01
***p <.005

Table 5

Correlations Between Respondent Life Event Stress Scores and Children's Report of the Mother-Child Relationship

| | n | Spearman correlation coefficient |
|---|---|---|
| Nurturance Scale (Frequency with which mother is mentioned as source of support) | 64 | -.14 |
| Punishment Scale (Extent of perceived punishment and rejection at home) | 62 | .01 |
| Child-Parent Relationship Scale (Extent of unhappiness with parent(s) | 61 | -.08 |

Table 6

Correlations Between Life Condition Stress Scores and Children's Reports of Mother-Child Relationships

| | N | Spearman correlation coefficient |
|---|---|---|
| Nurturance Scale | 65 | .08 |
| Punishment Scale | 63 | -.15 |
| Child-Parent Relationship Scale | 61 | .13 |

*p $<$ .05
**p $<$ .01

Table 7

Correlations Between Maternal CES-Depression Scores and Children's Reports of Mother-Child Relationships

| | n | Pearson correlation coefficient |
|---|---|---|
| Nurturance Scale (Frequency with which mother is mentioned as source of support) | 61 | -.04 |
| Punishment Scale (Extent of perceived punishment and rejection at home) | 59 | -.19 |
| Child-Parent Relationship Scale (Extent of unhappiness with parent(s) | 57 | .22* |

Correlations Between Maternal CES-D Depression Scores and Children's Reports of Mother-Child Relationships for 5-8 Year Old Children Only

| | n | Pearson correlation coefficient |
|---|---|---|
| Nurturance Scale | 31 | -.25 |
| Punishment Scale | 29 | -.06 |
| Child-Parent Relationship Scale | 27 | .35* |

*p $<$ .05
**p $<$ .01

## Footnote

[1]Parametric statistics have frequently been used with CES-D scores, although Radloff (1977) notes that a skewed distribution of scores has been found in general population samples. Radloff notes that "several basic analyses (e.g., analysis of variance of CES-D scores by sex and marital status) have been replicated using normalizing transformations and nonparametric tests. In no case was the decision (accept vs. reject $H_0$) reversed." Average CES-D scores in the present sample (n=42) produce a distribution which is not significantly different from a normal distribution (Kolmogorov-Smirnov one-sample test, $\alpha = .05$).

## Notes

1. This work is part of the Stress and Families Project, Deborah Belle, Director, Harvard University. It is supported by grant number ROI MH28830-02 from the National Institute of Mental Health, Mental Health Services Branch, Susan Salasin, Project Officer.

2. The authors of this paper express gratitude for the expert assistance and support of other members of the Stress and Families Project staff.

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